H. T. DANIELS.

MANHOLE FRAME.

APPLICATION FILED SEPT. 15, 1917.

1,257,324. Patented Feb. 26, 1918.

Fig. 1

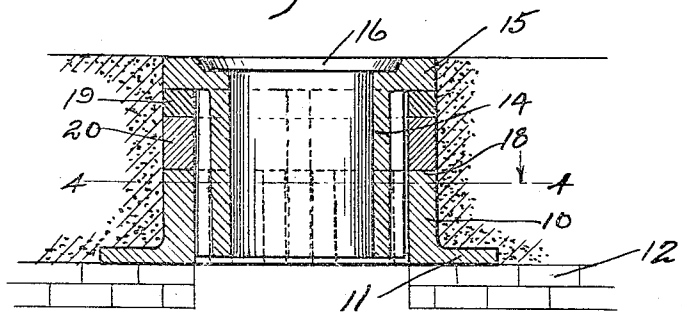


Fig. 2

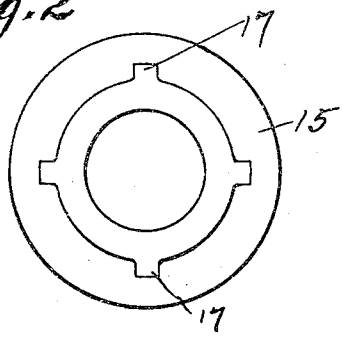
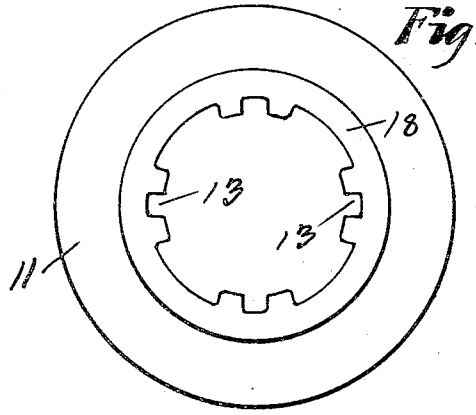


Fig. 3



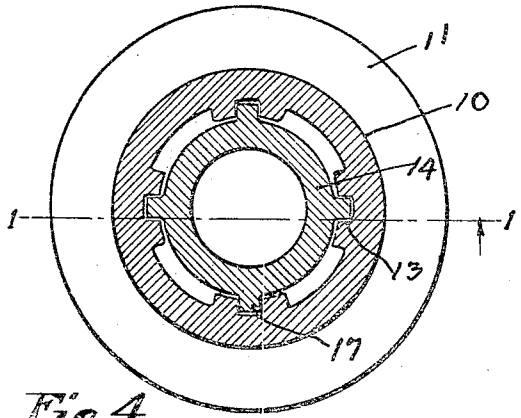
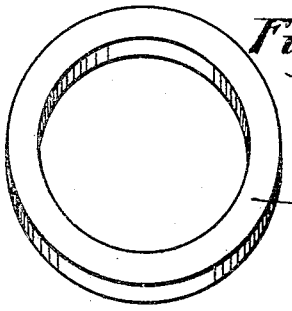


Fig. 4

Fig. 5



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UNITED STATES PATENT OFFICE.

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MANHOLE-FRAME.

1,257,324. Specification of Letters Patent. Patented Feb. 26, 1918.

Application filed September 15, 1917. Serial No. 191,521.

To all whom it may concern:

Be it known that I, HARRY T. DANIELS, a citizen of the United States, and resident of the city of Providence in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Manhole-Frames, of which the following is a specification.

This invention relates to manhole frames for underground conduits to be used more particularly in macadamized roads or the like on which there is heavy traffic, and the object of this invention is to provide a simple and effective manhole frame for this purpose which may be readily adjusted in height without being obliged to dig up the road material about the frame.

A further object of the invention is to construct the manhole frame of two members, one adapted to telescope or slide within the other and to interpose one or more readily removable spacing rings between these two adjustable members, which rings serve first, to support the load passing over the manhole; second, to provide simple and effective means whereby the body of the frame may be readily adjusted to the changing levels of the road bed; and third, as the diameters of the rings are substantially equal to that of the flange on the upper member, the outer face of the whole adjustable portion of the frame is entirely flush while in any adjusted position, thereby effectually preventing the surrounding material from falling into and so prevent adjusting without tearing up the material about the manhole.

A further object of the invention is to provide a set of grooves in the fixed portion of the main member and a set of corresponding ribs on the adjustable member adapted to slide in said grooves in the main member, which ribs when guided in said grooves perform a double function; first, they prevent any possible tipping of the adjustable member when a heavy team runs over one edge thereof; and second, these ribs serve to engage the rings at intervals and space the rings from the body surface of the adjustable member thereby retaining the rings accurately in their proper positions against the crowding effect of the surrounding road material, and also by presenting a comparatively small area to the rings, the latter are prevented from rusting to the body of the adjustable member.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1— is a sectional side elevation on line 1—1 of Fig. 4 showing the adjustable member of the frame in raised position.

Fig. 2— is a bottom view of the adjustable member showing the arrangement of the longitudinally-disposed ribs formed on the body portion thereof.

Fig. 3— is a top view of the main member showing the grooves formed on the inner surface thereof.

Fig. 4— is a top view sectioned on line 4—4 of Fig. 1 showing the ribs of the adjustable member engaging the grooves of the main member.

Fig. 5— is a perspective view of one of the spacer rings.

Referring to the drawings, 10 designates the main member of my improved manhole frame which is constructed in ring form and provided with a flange 11 around its lower edge adapted to set onto the brick work 12 of the manhole of a road conduit. The inner surface of this ring-shaped body member is provided with a plurality of longitudinally-disposed grooves 13 extending the length thereof.

A second relatively adjustable member 14 is constructed with a tubular-shaped body having an annular flange 15 about its upper edge, in the outer face of which is the recess 16 for the reception of the manhole cover (not shown). The body portion of this adjustable member is provided on its outside with longitudinally disposed rib 17 adapted to loosely fit and slide in the grooves 13 of the main member.

The body portion 14 of this adjustable member is of a length sufficient to extend well into the main member even when raised to its maximum height.

In order to provide a simple and effective adjustment for raising and lowering this adjustable member relative to the main member, I have interposed two spacing rings or members 19 and 20 between the under-face of the flange 15 and the upper face 18 of the main member 10, the ring 19 being, for example, one inch in thickness while the ring 20 is formed two inches thick, whereby it will be seen that by the use of these two

rings three adjustments of one inch, each, may be made, that is, when it is desired to drop the flange 15 one inch the small ring is removed; when it is desired to drop the flange two inches the large ring is removed; and the small ring replaced; and when it is desired to drop the flange three inches both rings are removed. The opposite is true when it is desired to raise the adjustable member a step at a time.

I have described these spacing-rings as two in number but any desired number of rings and of any suitable thickness may be employed as spacers.

One of the essential features of this invention is the forming of these spacer-rings of an outside diameter equal to that of the flange 15, whereby when positioned beneath the flange a wall of uniform outer surface is provided, which is an important feature in the adjustability of the frame when the whole is positioned in a road bed and the road material is packed closely about the same.

When it is desired to lower the frame to conform to the surface of the ever wearing road bed, it is only necessary to pull out the inner adjustable member, remove one of the rings and then drop this member back into position and the adjustment is quickly accomplished in the most satisfactory and practical manner and that without the employment of a skilled mechanic.

It will be seen that if any portion of these side walls were not absolutely flush, but projected one portion beyond another that the road material would crowd in around the overhanging portion and necessitate the tearing away of the road material before the parts could be removed in order to effect an adjustment of the same, which operation takes time, is very expensive and would render quite impractical an adjustable manhole frame of such a character.

These spacer rings are held in position and prevented from displacement from pressure of the surrounding material by means of the ribs 17, which ribs also serve to prevent the rings from rusting solidly to the body portion owing to the extremely small area in contact therewith. Another and important function of these ribs is that owing to their engagement with the grooves in the main member which is permanently secured in position, the top of the frame is effectually prevented from tipping when a heavy team runs over its outer edge.

My improved device is extremely simple, inexpensive in construction and practical in its operation and by its use a manhole frame may be readily adjustable at intervals to correspond to the ever changing grade of a macadamized road bed without disturbing the main member which is firmly cemented to a brick foundation, and which, if disturbed, would necessitate the employment of skilled mechanics and a heavy expense each time it was changed to conform to the grade.

The foregoing description of my improved manhole frame is directed solely toward the construction illustrated, but I desire it to be understood that I do not restrict myself to this exact construction, but that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

A manhole frame comprising a main member having longitudinally-disposed grooves formed on its inner circumference, a relatively adjustable member having a body portion with longitudinally-disposed ribs on its outer surface adapted to slide in the grooves in said main member, an annular flange about the upper edge of said adjustable member, and one or more readily removable spacing plain rings about said ribs and interposed between said flange and main member, the outer diameter of said rings being substantially equal to that of said flange.

In testimony whereof I affix my signature in presence of a witness.

HARRY T. DANIELS.

Witness:

HOWARD E. BARLOW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."